

**ABSTRACT**

Feed back vibrations of a metallic tool generated during the machining of metallic workpieces are damped by detecting an oscillatory motion of the tool, identifying a frequency of the oscillatory motion and generating a  
5 mechanical damping force having the same frequency as the oscillatory motion and applied to the tool in counter-direction to a velocity of the oscillatory motion. The damping force can be of constant amplitude or gradually decreasing amplitude.